



Massachusetts
Department
of
ENVIRONMENTAL
PROTECTION

fact sheet

Engine Idling: Impacts on Your Health and the Environment

Exhaust from motor vehicles is a key component of ground-level ozone or smog, a contributor to global warming and can cause serious health effects. In addition, very fine particles emitted from diesel and gas engines are lung irritants and can trigger asthma attacks and more serious health conditions. All of these contaminants are produced when motor vehicles idle. The anti-idling law and DEP and DEP anti-idling regulation are designed to decrease these harmful gases by reducing unnecessary idling.

In Massachusetts, state law (M.G.L. Chapter 90, Section 16A) and DEP regulation (310 CMR 7.11) limit vehicle idling to no more than five minutes in most cases. A vehicle may idle longer only if absolutely necessary. The law includes exceptions for vehicles being serviced, vehicles making deliveries that need to keep their engines running (to power refrigerators, for example), and vehicles that need to run their engines to operate accessories (such as power lifts).

What kind of emissions do vehicles produce?

Diesel trucks and buses produce fine particulates as well as nitrogen oxides, sulfur dioxide, carbon oxides and over 40 kinds of toxic emissions. Gasoline powered vehicles produce significantly less fine particulates than diesel-powered vehicles but still produce nitrogen oxides, carbon oxides and other toxic contaminants, such as benzene. Catalytic converters reduce vehicle emissions, but the number of vehicles on the road is increasing. Collectively, the impact of these emissions is significant.

How does vehicle exhaust contribute to smog?

Ground-level ozone, or smog, is formed by the reaction of volatile organic compounds and nitrogen oxides in the presence of sunlight and warm temperatures. Volatile organic compounds and nitrogen oxides are produced when fuel is burned in vehicle engines. The reaction of these compounds with sunlight and heat is why smog is more of a problem in the summer months. Nitrogen oxides and ozone occur naturally; however, fossil fuel use has greatly increased the amounts found in our breathing zone. Low concentrations of ground-level ozone can irritate the eyes, nose and throat. As smog increases, it can trigger more serious health problems, including asthma, bronchitis, increased susceptibility to respiratory infections, and decreased lung function. In addition, particulates from vehicle exhaust contribute to haze observed year round.

How do fine particles pose a health problem?

Blue clouds and black soot are the most noticeable forms of exhaust from buses, trucks and other heavy-duty vehicles, but it is the diesel pollution we can't see or smell that poses the greatest risks to our health.

Exhaust from buses and other diesel-powered vehicles contains particulate matter, including fine particles that can penetrate deep into the lungs and even enter the blood stream, posing serious health problems for children, the elderly, and people with respiratory ailments. Fine particles can cause lung damage, aggravate respiratory conditions such as asthma and bronchitis, increase heart disease, lead to cancer, and can contribute to premature death.

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How does vehicle exhaust contribute to global warming?

Carbon dioxide, the largest contributor to global warming, is produced when fuel is burned to power vehicles and other machinery. It is produced even when the vehicle is idling. An increase in concentration of carbon dioxide and other global warming gases in the atmosphere has been linked to rising global average temperatures. This increase in temperature may be responsible for numerous problems caused by weather extremes, such as heat waves, droughts, floods and spread of disease. Stabilizing atmospheric carbon dioxide concentrations is essential to avoid these potential environmental impacts. A simple way to reduce carbon dioxide production is to stop idling vehicles unnecessarily.

What can you do to help?

Each one of us can take the following steps to reduce unnecessary idling:

- Reduce warm-up idling time to 30 seconds. The best way to warm up your car is to drive it.
- Turn your engine off after 10 seconds of waiting, except in traffic.
- Minimize the use of remote car starters.
- Encourage your friends and family to reduce idling.
- Start an anti-idling program in your city or town.

Your municipal government can make a significant contribution to reducing idling and should be encouraged to do so. The effort will not only help clear the air, but will save your city or town money on reduced fuel costs. Some steps for a municipal idling reduction program include:

- Adopt anti-idling policies for municipal vehicles, to set an example.
- Educate municipal employees on how to comply with the Massachusetts anti-idling law.
- Train health officials and local police to enforce the law.
- Publicize the program by posting anti-idling signs in key locations where drivers often wait and promote the program through the media.
- Make sure school bus drivers are trained in the law.

DEP's website has sample idling reduction policies, a program implementation plan, sign designs, and other useful items to help start your program. Please visit: DEP
WEB LINK TO BE DETERMINED

Other sources of information and assistance

EPA website links include general information about emissions from mobile sources and emissions from diesel engines:

<http://www.epa.gov/oms/> and <http://www.epa.gov/ne/eco/diesel/>

The Asthma Regional Council promotes awareness and action on contributors to asthma. One area of interest of theirs is school bus idling reduction

<http://www.asthmaregionalcouncil.org/about/BusToolkit.htm>